

REMARKS

In response to the Office Action mailed February 2, 2007, Applicant respectfully requests reconsideration. Claims 1, 3-9 and 11-17 were previously pending in this application. Claims 1 and 9 have been amended herein. New claims 18-20 have been added to more fully define Applicant's contribution to the art. As a result, claims 1, 3-9 and 11-20 are pending for examination with claims 1, 9 and 19 being independent. No new matter has been added.

Rejections under 35 U.S.C. §112

The Office Action rejected claims 1, 3-9 and 11-17 under 35 U.S.C. §112, stating that the limitations added to claims 1 and 9 in Applicant's previous amendment purportedly did not comply with the written description requirement or the definiteness requirement of 35 U.S.C. §112. In this response, Applicant has amended claim 1 to clarify that the maximum resistance value is greater than a nominal resistance value exhibited by the polysilicon resistor prior to submitting it to the constraint current. Applicant has also amended claim 9 to include similar language. Support for these amendments to claims 1 and 9 can be found, without limitation, at FIG. 2 and the corresponding written description in the specification. For these reasons, the claims as amended are believed to satisfy the requirements of 35 U.S.C. §112. Accordingly, Applicant respectfully requests that these rejections be withdrawn.

Rejections under 35 U.S.C. §103(a)

The Office Action rejected claims 1, 3-9 and 11-17 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,687,325 (Wells) in view of U.S. Patent No. 5,334,880 (Abadeer et al.). Applicant respectfully requests reconsideration.

The Office Action relies upon Abadeer et al. as purportedly teaching the programming of a resistor by temporarily submitting it to a current greater than a current for which its resistance value exhibits a maximum. Abadeer et al. describes a programmable antifuse circuit having a resistance that is programmable at a low current value (col. 3, lines 35-38). Doped polysilicon conductors as the programmable components of Abadeer's antifuse circuit (col. 7, lines 7-13). According to Abadeer, applying a current density of sufficient magnitude causes dopants to be redistributed within the resistor such that the resistance decreases up to about 50% (col. 7, lines 32-40). Abadeer does not describe a resistor having a resistance that increases up to a maximum

value. Rather, Abadeer et al. states that the resistance value decreases in response to the application of a current (col. 7, lines 32-40). This effect is illustrated in FIG. 4 of Abadeer et al., which is a graph showing the relationship between resistance and applied current density. As shown in FIG. 4, the resistance never increases above the initial resistance value. Thus, the “maximum” resistance value for Abadeer’s resistor occurs initially before any current is applied.

By contrast, claim 1 as amended recites, *inter alia*, that the programming of said resistor is performed by temporarily submitting it to a constraint current greater than a current for which its resistance value exhibits a maximum, the maximum resistance value being greater than a nominal resistance value exhibited by the polysilicon resistor prior to submitting it to the constraint current. Abadeer does not teach or suggest a resistor that exhibits a maximum resistance value greater than a nominal resistance value exhibited by the polysilicon resistor prior to submitting it to the constraint current. Rather, as discussed above, the maximum resistance of Abadeer’s resistor occurs before any current is applied. Therefore, claim 1 patentably distinguishes over the combination of Abadeer and Wells relied upon in the Office Action. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

Claims 2 and 3-8 depend from claim 1 and are therefore patentable for at least the same reasons.

Claim 9 as amended recites, *inter alia*, that the programming of said resistor is performed by temporarily submitting the resistor to a programming current greater than a current for which the resistor’s value exhibits a maximum, the maximum resistance value being greater than a nominal resistance value exhibited by the resistor prior to submitting the resistor to the programming current. As should be appreciated from the above discussion with respect to claim 1, Abadeer does not teach or suggest this limitation of claim 9. Therefore, claim 9 patentably distinguishes over the combination of Abadeer and Wells relied upon in the Office Action. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

Claims 11-17 depend from claim 9 and are therefore patentable for at least the same reasons.

New Claims

New independent claim 19 recites, *inter alia*, that the programming current is greater than an current for which the resistance value exhibits a maximum resistance value, the maximum

resistance value being greater than a nominal resistance value exhibited by the resistor prior to applying the programming current to the resistor. Therefore, as should be appreciated from the above discussion of claim 1, new claim 19 patentably distinguishes over the combination of Abadeer and Wells.

Support for new dependent claims 18 and 20 can be found, without limitation, at FIG. 2 and the corresponding written description in the specification.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

By: 

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